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PASSWORD:
TERMINAL (ENTER 1, 2, 3, OR ?):2

* * * * * * * * * * Welcome to STN International * * * * * * * * * *

NEWS	1		Web Page URLs for STN Seminar Schedule - N. America
NEWS	2		"Ask CAS" for self-help around the clock
NEWS	3	JUL 20	Powerful new interactive analysis and visualization software, STN AnaVist, now available
NEWS	4	AUG 11	Derwent World Patents Index(R) web-based training during August
NEWS	5	AUG 11	STN AnaVist workshops to be held in North America
NEWS	6	AUG 30	CA/CAplus -Increased access to 19th century research documents
NEWS	7	AUG 30	CASREACT - Enhanced with displayable reaction conditions
NEWS	8	SEP 09	ACD predicted properties enhanced in REGISTRY/ZREGISTRY

NEWS EXPRESS	JUNE 13 CURRENT WINDOWS VERSION IS V8.0, CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP), AND CURRENT DISCOVER FILE IS DATED 13 JUNE 2005
NEWS HOURS	STN Operating Hours Plus Help Desk Availability
NEWS INTER	General Internet Information
NEWS LOGIN	Welcome Banner and News Items
NEWS PHONE	Direct Dial and Telecommunication Network Access to STN
NEWS WWW	CAS World Wide Web Site (general information)

Enter NEWS followed by the item number or name to see news on that specific topic.

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* * * * * * * * * * * * * * STN Columbus * * * * * * * * * * * * * * * *

FILE 'HOME' ENTERED AT 11:53:29 ON 21 SEP 2005

=> file reg

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.21	0.21

FILE 'REGISTRY' ENTERED AT 11:53:57 ON 21 SEP 2005
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STRUCTURE FILE UPDATES: 19 SEP 2005 HIGHEST RN 863478-08-4
DICTIONARY FILE UPDATES: 19 SEP 2005 HIGHEST RN 863478-08-4

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2005

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

```
**********************************************************************
*                                                                    *
* The CA roles and document type information have been removed from *
* the IDE default display format and the ED field has been added,    *
* effective March 20, 2005.  A new display format, IDERL, is now     *
* available and contains the CA role and document type information.  *
*                                                                    *
**********************************************************************
```

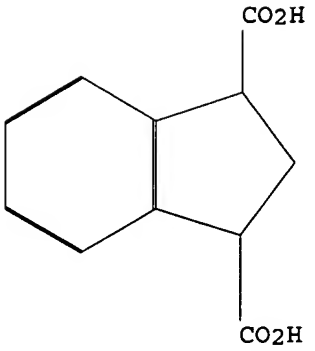
Structure search iteration limits have been increased. See HELP SLIMITS
for details.

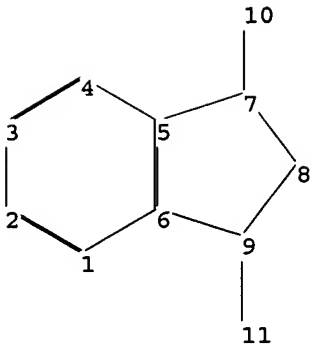
Experimental and calculated property data are now available. For more
information enter HELP PROP at an arrow prompt in the file or refer
to the file summary sheet on the web at:
http://www.cas.org/ONLINE/DBSS/registryss.html

```
=> e  1,3-indandicarboxylic acid/cn
E1            1     1,3-INDANDIAMINE/CN
E2            1     1,3-INDANDIAMINE, 2-PHENYL-, DIHYDROCHLORIDE/CN
E3            0 --> 1,3-INDANDICARBOXYLIC ACID/CN
E4            1     1,3-INDANDICARBOXYLIC ACID ANHYDRIDE/CN
E5            1     1,3-INDANDIOL/CN
E6            1     1,3-INDANDIOL, 1,2,2,3-TETRAPHENYL-/CN
E7            1     1,3-INDANDIOL, 1,2,3-TRIBENZYL-/CN
E8            1     1,3-INDANDIOL, 1,2,3-TRIPHENYL-2-(2-PIPERIDYL)-/CN
E9            1     1,3-INDANDIOL, 1,2,3-TRIPHENYL-2-(2-PYRIDYL)-/CN
E10           1     1,3-INDANDIOL, 1,3-DI-1-NAPHTHYL-2-(PHENYLAZO)-/CN
E11           1     1,3-INDANDIOL, 1,3-DI-P-TOLYL-2-(M-TOLYLAZO)-/CN
E12           1     1,3-INDANDIOL, 1,3-DI-P-TOLYL-2-(O-TOLYLAZO)-/CN

=> e indan-1,3-dicarboxylic acid/cn
E1            1     INDAN-1,2,3-TRIONE 2-(N-BENZOYL-N-PHENYLHYDRAZONE) COMPD. WI
                    TH INDAN-1,2,3-TRIONE 2-(N-PHENYLHYDRAZONE) (1:1)/CN
E2            1     INDAN-1,2,3-TRIONE 2-(N-P-TERT-BUTYLBENZOYL-N-PHENYLHYDRAZON
                    E)/CN
E3            0 --> INDAN-1,3-DICARBOXYLIC ACID/CN
E4            1     INDAN-1,3-DIONE ANION/CN
E5            1     INDAN-1,3-DIONE, 2-(1-OXOINDEN-2-YL)-/CN
E6            1     INDAN-1-ACETYL CHLORIDE/CN
E7            1     INDAN-1-ONE N,N-DIMETHYLHYDRAZONE/CN
E8            1     INDAN-1-ONE-6-CARBOXYLIC ACID/CN
E9            1     INDAN-1-YL METHYL ETHER/CN
E10           1     INDAN-1-YLTHIOACETIC ACID S-(PYRIDIN-2-YL) ESTER/CN
E11           1     INDAN-2,2-DIPHOSPHONIC ACID/CN
E12           1     INDAN-2-14C/CN

=>
Uploading C:\Documents and Settings\PZucker\My Documents\Examination Auxillary
files\10706694\10706694 product.str
```



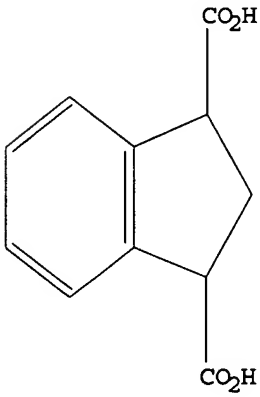


chain nodes :
10 11
ring nodes :
1 2 3 4 5 6 7 8 9
chain bonds :
7-10 9-11
ring bonds :
1-2 1-6 2-3 3-4 4-5 5-6 5-7 6-9 7-8 8-9
exact/norm bonds :
5-7 6-9 7-8 8-9
exact bonds :
7-10 9-11
normalized bonds :
1-2 1-6 2-3 3-4 4-5 5-6

Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:CLASS
11:CLASS

L1 STRUCTURE UPLOADED

=> d l1
L1 HAS NO ANSWERS
L1 STR



Structure attributes must be viewed using STN Express query preparation.

=> search l1 sss sam
SAMPLE SEARCH INITIATED 11:58:04 FILE 'REGISTRY'

SAMPLE SCREEN SEARCH COMPLETED - 2019 TO ITERATE

99.1% PROCESSED 2000 ITERATIONS 0 ANSWERS
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 37685 TO 43075
PROJECTED ANSWERS: 0 TO 0

L2 0 SEA SSS SAM L1

=> search l1 sss full
FULL SEARCH INITIATED 11:58:26 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 41894 TO ITERATE

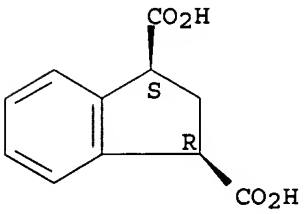
100.0% PROCESSED 41894 ITERATIONS 8 ANSWERS
SEARCH TIME: 00.00.01

L3 8 SEA SSS FUL L1

=> d scan

L3 8 ANSWERS REGISTRY COPYRIGHT 2005 ACS on STN
IN 1H-Indene-1,3-dicarboxylic acid, 2,3-dihydro-, cis- (9CI)
MF C11 H10 O4

Relative stereochemistry.

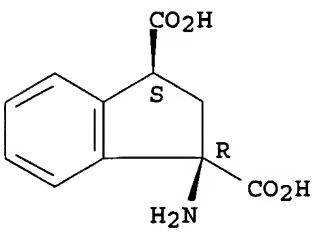


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):8

L3 8 ANSWERS REGISTRY COPYRIGHT 2005 ACS on STN
IN 1H-Indene-1,3-dicarboxylic acid, 1-amino-2,3-dihydro-, (1R,3S)-rel- (9CI)
MF C11 H11 N O4

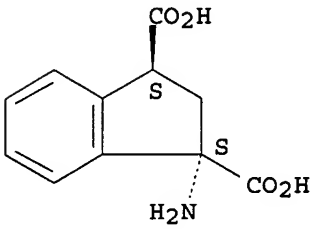
Relative stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

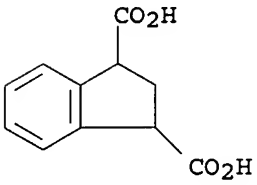
L3 8 ANSWERS REGISTRY COPYRIGHT 2005 ACS on STN
IN 1H-Indene-1,3-dicarboxylic acid, 1-amino-2,3-dihydro-, (1R,3R)-rel- (9CI)
MF C11 H11 N O4

Relative stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

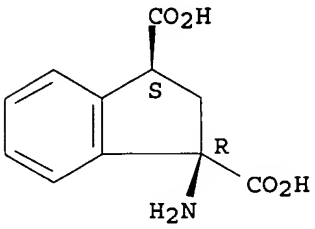
L3 8 ANSWERS REGISTRY COPYRIGHT 2005 ACS on STN
IN 1H-Indene-1,3-dicarboxylic acid, 2,3-dihydro- (9CI)
MF C11 H10 O4



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L3 8 ANSWERS REGISTRY COPYRIGHT 2005 ACS on STN
IN 1H-Indene-1,3-dicarboxylic acid, 1-amino-2,3-dihydro-, (1R,3S)- (9CI)
MF C11 H11 N O4

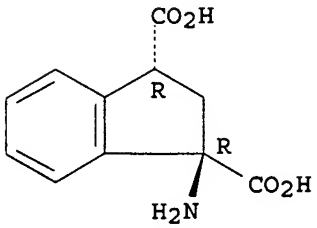
Absolute stereochemistry. Rotation (-).



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

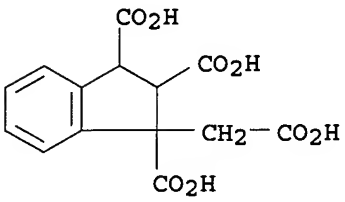
L3 8 ANSWERS REGISTRY COPYRIGHT 2005 ACS on STN
IN 1H-Indene-1,3-dicarboxylic acid, 1-amino-2,3-dihydro-, (1R,3R)- (9CI)
MF C11 H11 N O4

Absolute stereochemistry. Rotation (-).



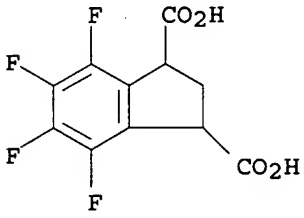
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L3 8 ANSWERS REGISTRY COPYRIGHT 2005 ACS on STN
IN 1,2,3-Indantricarboxylic acid, 1-(carboxymethyl)- (5CI)
MF C14 H12 O8



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L3 8 ANSWERS REGISTRY COPYRIGHT 2005 ACS on STN
IN 1H-Indene-1,3-dicarboxylic acid, 4,5,6,7-tetrafluoro-2,3-dihydro- (9CI)
MF C11 H6 F4 O4



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

ALL ANSWERS HAVE BEEN SCANNED

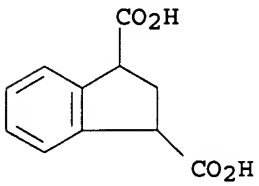
=> e 1H-Indene-1,3-dicarboxylic acid, 2,3-dihydro-/cn
E1 1 1H-INDENE-1,3-DICARBOXYLIC ACID, 1-BENZOYL-2-PHENYL-, DIMETH
YL ESTER/CN
E2 1 1H-INDENE-1,3-DICARBOXYLIC ACID, 1-BUTYL-, DIBUTYL ESTER/CN
E3 1 --> 1H-INDENE-1,3-DICARBOXYLIC ACID, 2,3-DIHYDRO-/CN
E4 1 1H-INDENE-1,3-DICARBOXYLIC ACID, 2,3-DIHYDRO-, CIS-/CN
E5 1 1H-INDENE-1,3-DICARBOXYLIC ACID, 2,3-DIHYDRO-1-((METHOXYCARB

```
                ONYL)AMINO)-, DIMETHYL ESTER, (1R,3R)-/CN
E6          1   1H-INDENE-1,3-DICARBOXYLIC ACID, 2,3-DIHYDRO-1-((METHOXYCARB
                ONYL)AMINO)-, DIMETHYL ESTER, (1R,3S)-/CN
E7          1   1H-INDENE-1,3-DICARBOXYLIC ACID, 2-PHENYL-/CN
E8          1   1H-INDENE-1,3-DICARBOXYLIC ACID, 2-PHENYL-, DIMETHYL ESTER/C
                N
E9          1   1H-INDENE-1,3-DICARBOXYLIC ACID, 2-PHENYL-, POLYMER WITH 1,1
                '-OXYBIS(4-ISOCYANATOBENZENE)/CN
E10         1   1H-INDENE-1,3-DICARBOXYLIC ACID, 2-PHENYL-, POLYMER WITH 1,4
                -BENZENEDICARBOXYLIC ACID AND 1,1'-OXYBIS(4-ISOCYANATOBENZEN
                E)/CN
E11         1   1H-INDENE-1,3-DICARBOXYLIC ACID, 4,5,6,7-TETRAFLUORO-2,3-DIH
                YDRO-/CN
E12         1   1H-INDENE-1,3-DICARBOXYLIC ACID, 4-(ACETYLOXY)OCTAHYDRO-3A-M
                ETHYL-6-(1-METHYLETHYL)-7-OXO-/CN

=> e3
L4          1 "1H-INDENE-1,3-DICARBOXYLIC ACID, 2,3-DIHYDRO-"/CN

=> d l4

L4   ANSWER 1 OF 1  REGISTRY  COPYRIGHT 2005 ACS on STN
RN   343317-37-3  REGISTRY
ED   Entered STN:  26 Jun 2001
CN   1H-Indene-1,3-dicarboxylic acid, 2,3-dihydro- (9CI)  (CA INDEX
     NAME)
FS   3D CONCORD
MF   C11 H10 O4
SR   Reaction Database
LC   STN Files:   CA, CAPLUS, CASREACT
```




```
**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**

               1 REFERENCES IN FILE CA (1907 TO DATE)
               1 REFERENCES IN FILE CAPLUS (1907 TO DATE)


=> file caplus
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                   171.64     171.85

FILE 'CAPLUS' ENTERED AT 12:00:12 ON 21 SEP 2005
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FILE COVERS 1907 - 21 Sep 2005 VOL 143 ISS 13
FILE LAST UPDATED: 20 Sep 2005 (20050920/ED)

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This file contains CAS Registry Numbers for easy and accurate substance identification.

=> l4
L5 1 L4

=> d l5 ti fbib abs

L5 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2005 ACS on STN
TI A method for preparing indan-1,3-dicarboxylic acid
AN 2004:453158 CAPLUS
DN 141:23306
TI A method for preparing indan-1,3-dicarboxylic acid
IN Arpin, Patric; Guzman, Mark Christopher; Watson, Timothy James Norman
PA Pfizer Products Inc., USA
SO PCT Int. Appl., 13 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
PI	WO 2004046077	A1	20040603	WO 2003-IB5043		20031107
	WO 2004046077	C1	20050519			
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW					
	RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG					
				US 2002-427981P	P	20021120
	CA 2502443	AA	20040603	CA 2003-2502443		20031107
				US 2002-427981P	P	20021120
				WO 2003-IB5043	W	20031107
	EP 1565421	A1	20050824	EP 2003-758601		20031107
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK					
				US 2002-427981P	P	20021120
				WO 2003-IB5043	W	20031107

OS CASREACT 141:23306; MARPAT 141:23306
AB A method for preparing indan-1,3-dicarboxylic acid (I) and its ring-substituted derivs. comprises the cyclocondensation reaction of an 2-(2-halophenyl)acetonitrile with 3-ethoxyacrylonitrile in the presence of palladium diacetate, tricyclohexylphosphine, and a base in a water-miscible organic solvent to give 1,3-indenedinitrile which is then hydrogenated into indan-1,3-dinitrile and hydrolyzed into I.

=> filoe reg
0 FILOE
1148 REG
60 REGS

```
          1202 REG
                 (REG OR REGS)
L6           0 FILOE REG
                 (FILOE(W)REG)

=> file reg
COST IN U.S. DOLLARS                                    SINCE FILE      TOTAL
                                                           ENTRY    SESSION
FULL ESTIMATED COST                                         7.33     179.18

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)              SINCE FILE      TOTAL
                                                           ENTRY    SESSION
CA SUBSCRIBER PRICE                                        -0.73      -0.73

FILE 'REGISTRY' ENTERED AT 12:01:07 ON 21 SEP 2005
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STRUCTURE FILE UPDATES:   19 SEP 2005  HIGHEST RN 863478-08-4
DICTIONARY FILE UPDATES:  19 SEP 2005  HIGHEST RN 863478-08-4

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2005

  Please note that search-term pricing does apply when
  conducting SmartSELECT searches.

**********************************************************************
*                                                                    *
* The CA roles and document type information have been removed from *
* the IDE default display format and the ED field has been added,    *
* effective March 20, 2005.  A new display format, IDERL, is now     *
* available and contains the CA role and document type information.  *
*                                                                    *
**********************************************************************

Structure search iteration limits have been increased.  See HELP SLIMITS
for details.

Experimental and calculated property data are now available. For more
information enter HELP PROP at an arrow prompt in the file or refer
to the file summary sheet on the web at:
http://www.cas.org/ONLINE/DBSS/registryss.html

=> e 1,3-indenedinitrile/cn
E1            1     1,3-INDANEDIONE, 2-(P-(DIETHYLAMINO)PHENYL)-2-(2-PIPERIDINOE
                    THYL)-, DIHYDROBROMIDE/CN
E2            1     1,3-INDENEDICARBOXYLIC ACID/CN
E3            0 --> 1,3-INDENEDINITRILE/CN
E4            1     1,3-INDENEDIOL, 1-METHYL-/CN
E5            1     1,3-INDOLEDIACETIC ACID, A,A,A',A'-T
                    ETRAMETHYL-/CN
E6            1     1,3-INDOLEDIACETIC ACID, 2-CARBOXY-, DIETHYL ESTER/CN
E7            1     1,3-INDOLEDIOL, 5-METHOXY-6-NITRO-2-PHENYL-, DIACETATE/CN
E8            1     1,3-INDOLEDIPROPIONITRILE, 2-PHENYL-/CN
E9            1     1,3-INDOLINEDIPROPIONIC ACID, 2-OXO-/CN
E10           1     1,3-INDOLIZINEDIACETIC ACID, A,A'-DIHYDROXY-2-PH
                    ENYL-A,A'-BIS(TRIFLUOROMETHYL)-, DIMETHYL ESTER/
                    CN
E11           1     1,3-INDOLIZINEDIACETIC ACID, 2,5-DIMETHYL-A,A'-D
```

```
                  IOXO-, DIETHYL ESTER/CN
E12          1    1,3-INDOLIZINEDIACETIC ACID, 2-METHYL-, DIETHYL ESTER/CN

=> file caplus
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                     0.86     180.04

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)          SINCE FILE      TOTAL
                                                       ENTRY    SESSION
CA SUBSCRIBER PRICE                                     0.00      -0.73

FILE 'CAPLUS' ENTERED AT 12:02:18 ON 21 SEP 2005
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FILE COVERS 1907 - 21 Sep 2005  VOL 143 ISS 13
FILE LAST UPDATED: 20 Sep 2005  (20050920/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

  This file contains CAS Registry Numbers for easy and accurate
  substance identification.

=> d his

     (FILE 'HOME' ENTERED AT 11:53:29 ON 21 SEP 2005)

     FILE 'REGISTRY' ENTERED AT 11:53:57 ON 21 SEP 2005
                E  1,3-INDANDICARBOXYLIC ACID/CN
                E INDAN-1,3-DICARBOXYLIC ACID/CN
L1              STRUCTURE UPLOADED
L2            0 SEARCH L1 SSS SAM
L3            8 SEARCH L1 SSS FULL
                E 1H-INDENE-1,3-DICARBOXYLIC ACID, 2,3-DIHYDRO-/CN
L4            1 E3

     FILE 'CAPLUS' ENTERED AT 12:00:12 ON 21 SEP 2005
L5            1 L4
L6            0 FILOE REG

     FILE 'REGISTRY' ENTERED AT 12:01:07 ON 21 SEP 2005
                E 1,3-INDENEDINITRILE/CN

     FILE 'CAPLUS' ENTERED AT 12:02:18 ON 21 SEP 2005

=> l3
L7            6 L3

=> ?nitrile
L8       327361 ?NITRILE

=> l7 and l8
```

```
L9            1 L7 AND L8

=> d l9

L9   ANSWER 1 OF 1  CAPLUS  COPYRIGHT 2005 ACS on STN
AN   2004:453158  CAPLUS
DN   141:23306
TI   A method for preparing indan-1,3-dicarboxylic acid
IN   Arpin, Patric; Guzman, Mark Christopher; Watson, Timothy James Norman
PA   Pfizer Products Inc., USA
SO   PCT Int. Appl., 13 pp.
     CODEN: PIXXD2
DT   Patent
LA   English
FAN.CNT 1
     PATENT NO.           KIND   DATE        APPLICATION NO.         DATE
     ---------------      ----   --------    --------------------    --------
PI   WO 2004046077         A1    20040603    WO 2003-IB5043          20031107
     WO 2004046077         C1    20050519
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
             CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE,
             GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK,
             LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ,
             OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,
             TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
         RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ,
             BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE,
             ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK,
             TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
     CA 2502443            AA    20040603    CA 2003-2502443         20031107
     EP 1565421            A1    20050824    EP 2003-758601          20031107
         R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK
PRAI US 2002-427981P       P     20021120
     WO 2003-IB5043        W     20031107
OS   CASREACT 141:23306; MARPAT 141:23306


=> logoff hold
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                     5.69     185.73

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)          SINCE FILE      TOTAL
                                                       ENTRY    SESSION
CA SUBSCRIBER PRICE                                     0.00      -0.73

 SESSION WILL BE HELD FOR 60 MINUTES
STN INTERNATIONAL SESSION SUSPENDED AT 12:06:01 ON 21 SEP 2005

Connecting via Winsock to STN



Welcome to STN International!  Enter x:x

LOGINID:SSSPTA1623PAZ

PASSWORD:
 * * * * * * RECONNECTED TO STN INTERNATIONAL * * * * * *
SESSION RESUMED IN FILE 'CAPLUS' AT 12:08:47 ON 21 SEP 2005
FILE 'CAPLUS' ENTERED AT 12:08:47 ON 21 SEP 2005
COPYRIGHT (C) 2005 AMERICAN CHEMICAL SOCIETY (ACS)
```

```
COST IN U.S. DOLLARS                                    SINCE FILE      TOTAL
                                                          ENTRY    SESSION
FULL ESTIMATED COST                                         5.69     185.73

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)              SINCE FILE      TOTAL
                                                          ENTRY    SESSION
CA SUBSCRIBER PRICE                                         0.00      -0.73

=> d his

     (FILE 'HOME' ENTERED AT 11:53:29 ON 21 SEP 2005)

     FILE 'REGISTRY' ENTERED AT 11:53:57 ON 21 SEP 2005
               E  1,3-INDANDICARBOXYLIC ACID/CN
               E INDAN-1,3-DICARBOXYLIC ACID/CN
L1             STRUCTURE UPLOADED
L2           0 SEARCH L1 SSS SAM
L3           8 SEARCH L1 SSS FULL
               E 1H-INDENE-1,3-DICARBOXYLIC ACID, 2,3-DIHYDRO-/CN
L4           1 E3

     FILE 'CAPLUS' ENTERED AT 12:00:12 ON 21 SEP 2005
L5           1 L4
L6           0 FILOE REG

     FILE 'REGISTRY' ENTERED AT 12:01:07 ON 21 SEP 2005
               E 1,3-INDENEDINITRILE/CN

     FILE 'CAPLUS' ENTERED AT 12:02:18 ON 21 SEP 2005
L7           6 L3
L8      327361 ?NITRILE
L9           1 L7 AND L8

=> save temp l7 indanefinds/a
ANSWER SET L7 HAS BEEN SAVED AS 'INDANEFINDS/A'

=> save temp all indansrch/l
L# LIST L1-L9 HAS BEEN SAVED AS 'INDANSRCH/L'

=> cyano
        77597 CYANO
            3 CYANOS
L10     77598 CYANO
                (CYANO OR CYANOS)

=> l7 and l10
L11          0 L7 AND L10

=> logoff hold
COST IN U.S. DOLLARS                                    SINCE FILE      TOTAL
                                                          ENTRY    SESSION
FULL ESTIMATED COST                                         9.83     189.87

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)              SINCE FILE      TOTAL
                                                          ENTRY    SESSION
CA SUBSCRIBER PRICE                                         0.00      -0.73

 SESSION WILL BE HELD FOR 60 MINUTES
STN INTERNATIONAL SESSION SUSPENDED AT 12:11:33 ON 21 SEP 2005

Connecting via Winsock to STN
```

```
Welcome to STN International!  Enter x:x

LOGINID:SSSPTA1623PAZ

PASSWORD:
 * * * * * * RECONNECTED TO STN INTERNATIONAL * * * * * *
SESSION RESUMED IN FILE 'CAPLUS' AT 12:47:46 ON 21 SEP 2005
FILE 'CAPLUS' ENTERED AT 12:47:46 ON 21 SEP 2005
COPYRIGHT (C) 2005 AMERICAN CHEMICAL SOCIETY (ACS)

COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                     9.83     189.87

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)          SINCE FILE      TOTAL
                                                       ENTRY    SESSION
CA SUBSCRIBER PRICE                                     0.00      -0.73

=> d his

     (FILE 'HOME' ENTERED AT 11:53:29 ON 21 SEP 2005)

     FILE 'REGISTRY' ENTERED AT 11:53:57 ON 21 SEP 2005
                E  1,3-INDANDICARBOXYLIC ACID/CN
                E INDAN-1,3-DICARBOXYLIC ACID/CN
L1              STRUCTURE UPLOADED
L2            0 SEARCH L1 SSS SAM
L3            8 SEARCH L1 SSS FULL
                E 1H-INDENE-1,3-DICARBOXYLIC ACID, 2,3-DIHYDRO-/CN
L4            1 E3

     FILE 'CAPLUS' ENTERED AT 12:00:12 ON 21 SEP 2005
L5            1 L4
L6            0 FILOE REG

     FILE 'REGISTRY' ENTERED AT 12:01:07 ON 21 SEP 2005
                E 1,3-INDENEDINITRILE/CN

     FILE 'CAPLUS' ENTERED AT 12:02:18 ON 21 SEP 2005
L7            6 L3
L8       327361 ?NITRILE
L9            1 L7 AND L8
                SAVE TEMP L7 INDANEFINDS/A
                SAVE TEMP ALL INDANSRCH/L
L10       77598 CYANO
L11           0 L7 AND L10

=> logoff hold
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                    10.28     190.32

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)          SINCE FILE      TOTAL
                                                       ENTRY    SESSION
CA SUBSCRIBER PRICE                                     0.00      -0.73

 SESSION WILL BE HELD FOR 60 MINUTES
STN INTERNATIONAL SESSION SUSPENDED AT 12:48:18 ON 21 SEP 2005

Connecting via Winsock to STN



Welcome to STN International!  Enter x:x
```

```
LOGINID:SSSPTA1623PAZ

PASSWORD:
 * * * * * * RECONNECTED TO STN INTERNATIONAL * * * * * *
SESSION RESUMED IN FILE 'CAPLUS' AT 13:32:07 ON 21 SEP 2005
FILE 'CAPLUS' ENTERED AT 13:32:07 ON 21 SEP 2005
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COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                    10.28     190.32

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)          SINCE FILE      TOTAL
                                                       ENTRY    SESSION
CA SUBSCRIBER PRICE                                     0.00      -0.73

=> logofff hold
            0 LOGOFFF
        35891 HOLD
        24794 HOLDS
        59782 HOLD
                (HOLD OR HOLDS)
L12         0 LOGOFFF HOLD
                (LOGOFFF(W)HOLD)

=> ind?n?
'?' TRUNCATION SYMBOL NOT VALID WITHIN 'IND?N?'
The truncation symbol ?  may be used only at the end of a search
term.  To specify a variable character within a word use '!', e.g.,
'wom!n' to search for both 'woman' and 'women'.  Enter "HELP
TRUNCATION" at an arrow prompt (=>) for more information.

=> ind?ne
'?' TRUNCATION SYMBOL NOT VALID WITHIN 'IND?NE'
The truncation symbol ?  may be used only at the end of a search
term.  To specify a variable character within a word use '!', e.g.,
'wom!n' to search for both 'woman' and 'women'.  Enter "HELP
TRUNCATION" at an arrow prompt (=>) for more information.

=> file reg
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                    16.31     196.35

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)          SINCE FILE      TOTAL
                                                       ENTRY    SESSION
CA SUBSCRIBER PRICE                                     0.00      -0.73

FILE 'REGISTRY' ENTERED AT 13:34:53 ON 21 SEP 2005
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Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES:   19 SEP 2005  HIGHEST RN 863478-08-4
DICTIONARY FILE UPDATES:  19 SEP 2005  HIGHEST RN 863478-08-4

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2005

  Please note that search-term pricing does apply when
```

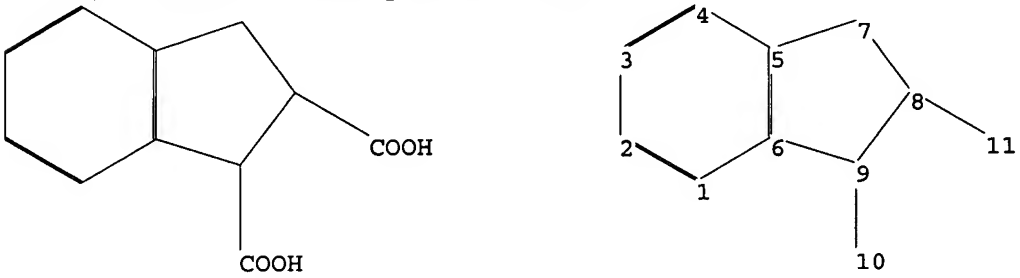
conducting SmartSELECT searches.

```
**********************************************************************
*                                                                    *
* The CA roles and document type information have been removed from *
* the IDE default display format and the ED field has been added,    *
* effective March 20, 2005.  A new display format, IDERL, is now     *
* available and contains the CA role and document type information. *
*                                                                    *
**********************************************************************
```

Structure search iteration limits have been increased. See HELP SLIMITS for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:
http://www.cas.org/ONLINE/DBSS/registryss.html

=>
Uploading C:\Documents and Settings\PZucker\My Documents\Examination Auxillary files\10706694\10706694 product isomer.str

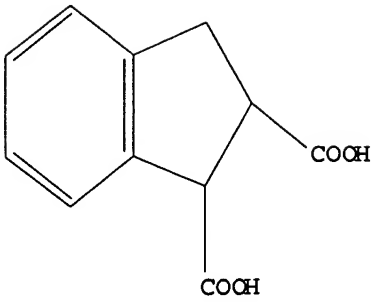


chain nodes :
10 11
ring nodes :
1 2 3 4 5 6 7 8 9
chain bonds :
8-11 9-10
ring bonds :
1-2 1-6 2-3 3-4 4-5 5-6 5-7 6-9 7-8 8-9
exact/norm bonds :
5-7 6-9 7-8 8-9
exact bonds :
8-11 9-10
normalized bonds :
1-2 1-6 2-3 3-4 4-5 5-6

Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:CLASS 11:CLASS

L13 STRUCTURE UPLOADED

=> d l13
L13 HAS NO ANSWERS
L13 STR



Structure attributes must be viewed using STN Express query preparation.

```
=> search l13 sss sam
SAMPLE SEARCH INITIATED 13:35:18 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED -      498 TO ITERATE

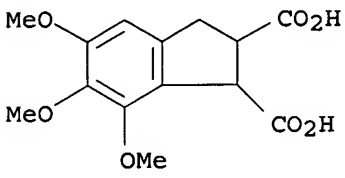
100.0% PROCESSED      498 ITERATIONS                                  1 ANSWERS
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS:  ONLINE  **COMPLETE**
                        BATCH   **COMPLETE**
PROJECTED ITERATIONS:          8622 TO    11298
PROJECTED ANSWERS:                1 TO       80

L14            1 SEA SSS SAM L13

=> d scan

L14  1 ANSWERS   REGISTRY  COPYRIGHT 2005 ACS on STN
IN   1,2-Indandicarboxylic acid, 5,6,7-trimethoxy- (5CI)
MF   C14 H16 O7
```




```
**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**


ALL ANSWERS HAVE BEEN SCANNED


=> e 1,2-Indandicarboxylic acid/cn
E1            1     1,2-INDANDICARBOXIMIDE, N-POTASSIUM DERIV/CN
E2            1     1,2-INDANDICARBOXIMIDE, N-PROPYL-/CN
E3            0 --> 1,2-INDANDICARBOXYLIC ACID/CN
E4            1     1,2-INDANDICARBOXYLIC ACID, 2-(CARBOXYMETHYL)-7-METHYL-3-OXO
                    -, TRIMETHYL ESTER/CN
E5            1     1,2-INDANDICARBOXYLIC ACID, 2-HYDROXY-/CN
E6            1     1,2-INDANDICARBOXYLIC ACID, 3-((CARBOXYAMINO)METHYL)-, TRIME
                    THYL ESTER/CN
E7            1     1,2-INDANDICARBOXYLIC ACID, 3-HYDROXY-6-METHOXY-, DIMETHYL E
                    STER/CN
```

```
E8            1     1,2-INDANDICARBOXYLIC ACID, 4,5,6,7-TETRAMETHYL-/CN
E9            1     1,2-INDANDICARBOXYLIC ACID, 4,5,6,7-TETRAMETHYL-, DIMETHYL E
                    STER/CN
E10           1     1,2-INDANDICARBOXYLIC ACID, 5,6,7-TRIMETHOXY-/CN
E11           1     1,2-INDANDICARBOXYLIC ACID, 5,6,7-TRIMETHOXY-, DIETHYL ESTER
                    /CN
E12           1     1,2-INDANDICARBOXYLIC ACID, 5,6-DIMETHOXY-, DIETHYL ESTER/CN

=> file caplus
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                     2.15     198.50

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)          SINCE FILE      TOTAL
                                                       ENTRY    SESSION
CA SUBSCRIBER PRICE                                     0.00      -0.73

FILE 'CAPLUS' ENTERED AT 13:38:00 ON 21 SEP 2005
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PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2005 AMERICAN CHEMICAL SOCIETY (ACS)
```



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FILE COVERS 1907 - 21 Sep 2005  VOL 143 ISS 13
FILE LAST UPDATED: 20 Sep 2005  (20050920/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

  This file contains CAS Registry Numbers for easy and accurate
  substance identification.

=> 1,2-Indandicarboxylic
       8400853 1
       8498306 2
           113 INDANDICARBOXYLIC
L15         20 1,2-INDANDICARBOXYLIC
               (1(W)2(W)INDANDICARBOXYLIC)

=> d hsi
'HSI' IS NOT A VALID FORMAT FOR FILE 'CAPLUS'

The following are valid formats:

ABS --------- GI and AB
ALL --------- BIB, AB, IND, RE
APPS -------- AI, PRAI
BIB --------- AN, plus Bibliographic Data and PI table (default)
CAN --------- List of CA abstract numbers without answer numbers
CBIB -------- AN, plus Compressed Bibliographic Data
DALL -------- ALL, delimited (end of each field identified)
DMAX -------- MAX, delimited for post-processing
FAM --------- AN, PI and PRAI in table, plus Patent Family data
FBIB -------- AN, BIB, plus Patent FAM
IND --------- Indexing data
IPC --------- International Patent Classifications
```

```
MAX --------- ALL, plus Patent FAM, RE
PATS -------- PI, SO
SAM --------- CC, SX, TI, ST, IT
SCAN -------- CC, SX, TI, ST, IT (random display, no answer numbers;
              SCAN must be entered on the same line as the DISPLAY,
              e.g., D SCAN or DISPLAY SCAN)
STD --------- BIB, IPC, and NCL

IABS -------- ABS, indented with text labels
IALL -------- ALL, indented with text labels
IBIB -------- BIB, indented with text labels
IMAX -------- MAX, indented with text labels
ISTD -------- STD, indented with text labels

OBIB -------- AN, plus Bibliographic Data (original)
OIBIB ------- OBIB, indented with text labels

SBIB -------- BIB, no citations
SIBIB ------- IBIB, no citations

HIT --------- Fields containing hit terms
HITIND ------ IC, ICA, ICI, NCL, CC and index field (ST and IT)
              containing hit terms
HITRN ------- HIT RN and its text modification
HITSTR ------ HIT RN, its text modification, its CA index name, and
              its structure diagram
HITSEQ ------ HIT RN, its text modification, its CA index name, its
              structure diagram, plus NTE and SEQ fields
FHITSTR ----- First HIT RN, its text modification, its CA index name, and
              its structure diagram
FHITSEQ ----- First HIT RN, its text modification, its CA index name, its
              structure diagram, plus NTE and SEQ fields
KWIC -------- Hit term plus 20 words on either side
OCC --------- Number of occurrence of hit term and field in which it occurs

To display a particular field or fields, enter the display field
codes.  For a list of the display field codes, enter HELP DFIELDS at
an arrow prompt (=>).  Examples of formats include: TI; TI,AU; BIB,ST;
TI,IND; TI,SO.  You may specify the format fields in any order and the
information will be displayed in the same order as the format
specification.

All of the formats (except for SAM, SCAN, HIT, HITIND, HITRN, HITSTR,
FHITSTR, HITSEQ, FHITSEQ, KWIC, and OCC) may be used with DISPLAY ACC
to view a specified Accession Number.
ENTER DISPLAY FORMAT (BIB):\end
'\END' IS NOT A VALID FORMAT FOR FILE 'CAPLUS'

The following are valid formats:

ABS --------- GI and AB
ALL --------- BIB, AB, IND, RE
APPS -------- AI, PRAI
BIB --------- AN, plus Bibliographic Data and PI table (default)
CAN --------- List of CA abstract numbers without answer numbers
CBIB -------- AN, plus Compressed Bibliographic Data
DALL -------- ALL, delimited (end of each field identified)
DMAX -------- MAX, delimited for post-processing
FAM --------- AN, PI and PRAI in table, plus Patent Family data
FBIB -------- AN, BIB, plus Patent FAM
IND --------- Indexing data
IPC --------- International Patent Classifications
MAX --------- ALL, plus Patent FAM, RE
PATS -------- PI, SO
SAM --------- CC, SX, TI, ST, IT
```

```
SCAN -------- CC, SX, TI, ST, IT (random display, no answer numbers;
              SCAN must be entered on the same line as the DISPLAY,
              e.g., D SCAN or DISPLAY SCAN)
STD --------- BIB, IPC, and NCL

IABS -------- ABS, indented with text labels
IALL -------- ALL, indented with text labels
IBIB -------- BIB, indented with text labels
IMAX -------- MAX, indented with text labels
ISTD -------- STD, indented with text labels

OBIB -------- AN, plus Bibliographic Data (original)
OIBIB ------- OBIB, indented with text labels

SBIB -------- BIB, no citations
SIBIB ------- IBIB, no citations

HIT --------- Fields containing hit terms
HITIND ------ IC, ICA, ICI, NCL, CC and index field (ST and IT)
              containing hit terms
HITRN ------- HIT RN and its text modification
HITSTR ------ HIT RN, its text modification, its CA index name, and
              its structure diagram
HITSEQ ------ HIT RN, its text modification, its CA index name, its
              structure diagram, plus NTE and SEQ fields
FHITSTR ----- First HIT RN, its text modification, its CA index name, and
              its structure diagram
FHITSEQ ----- First HIT RN, its text modification, its CA index name, its
              structure diagram, plus NTE and SEQ fields
KWIC -------- Hit term plus 20 words on either side
OCC --------- Number of occurrence of hit term and field in which it occurs

To display a particular field or fields, enter the display field
codes.  For a list of the display field codes, enter HELP DFIELDS at
an arrow prompt (=>).  Examples of formats include: TI; TI,AU; BIB,ST;
TI,IND; TI,SO.  You may specify the format fields in any order and the
information will be displayed in the same order as the format
specification.

All of the formats (except for SAM, SCAN, HIT, HITIND, HITRN, HITSTR,
FHITSTR, HITSEQ, FHITSEQ, KWIC, and OCC) may be used with DISPLAY ACC
to view a specified Accession Number.
ENTER DISPLAY FORMAT (BIB):end

=> d his

     (FILE 'HOME' ENTERED AT 11:53:29 ON 21 SEP 2005)

     FILE 'REGISTRY' ENTERED AT 11:53:57 ON 21 SEP 2005
                E  1,3-INDANDICARBOXYLIC ACID/CN
                E INDAN-1,3-DICARBOXYLIC ACID/CN
L1              STRUCTURE UPLOADED
L2            0 SEARCH L1 SSS SAM
L3            8 SEARCH L1 SSS FULL
                E 1H-INDENE-1,3-DICARBOXYLIC ACID, 2,3-DIHYDRO-/CN
L4            1 E3

     FILE 'CAPLUS' ENTERED AT 12:00:12 ON 21 SEP 2005
L5            1 L4
L6            0 FILOE REG

     FILE 'REGISTRY' ENTERED AT 12:01:07 ON 21 SEP 2005
                E 1,3-INDENEDINITRILE/CN

     FILE 'CAPLUS' ENTERED AT 12:02:18 ON 21 SEP 2005
```

```
L7             6 L3
L8        327361 ?NITRILE
L9             1 L7 AND L8
                 SAVE TEMP L7 INDANEFINDS/A
                 SAVE TEMP ALL INDANSRCH/L
L10        77598 CYANO
L11            0 L7 AND L10
L12            0 LOGOFFF HOLD

     FILE 'REGISTRY' ENTERED AT 13:34:53 ON 21 SEP 2005
L13              STRUCTURE UPLOADED
L14            1 SEARCH L13 SSS SAM
                 E 1,2-INDANDICARBOXYLIC ACID/CN

     FILE 'CAPLUS' ENTERED AT 13:38:00 ON 21 SEP 2005
L15           20 1,2-INDANDICARBOXYLIC

=> l8 and l15
L16            2 L8 AND L15

=> d l16 ti fbib abs

L16  ANSWER 1 OF 2  CAPLUS  COPYRIGHT 2005 ACS on STN
TI   Synthesis of compounds related to gibberellic acid. II. (±)-Gibberic
     acid
AN   1965:51435  CAPLUS
DN   62:51435
OREF 62:9079f-g
TI   Synthesis of compounds related to gibberellic acid. II. (±)-Gibberic
     acid
AU   Loewenthal, H. J. E.; Malhotra, S. K.
CS   Israel Inst. Technol. Haifa
SO   Journal of the Chemical Society, Abstracts (1965), (Feb.), 990-4
     CODEN: JCSAAZ; ISSN: 0590-9791
DT   Journal
LA   English
OS   CASREACT 62:51435
GI   For diagram(s), see printed CA Issue.
AB   (±)-Gibberic acid (I), a key degradation product of gibberellic acid,
     was synthesized from o- tolylacetonitrile.  Cf CA 58,
     10140a.


=> d l16 2 ti fbib abs

L16  ANSWER 2 OF 2  CAPLUS  COPYRIGHT 2005 ACS on STN
TI   Synthesis of cis-8-methylhydrindanone
AN   1958:35125  CAPLUS
DN   52:35125
OREF 52:6294i,6295a-i
TI   Synthesis of cis-8-methylhydrindanone
AU   Chatterjee, Ramesh Chandra; Bhattacharyya, Bidyut Kamal
CS   Jadavpur Univ., Calcutta
SO   J. Indian Chem. Soc. (1957), 34, 515-27
DT   Journal
LA   Unavailable
AB   cf. C.A. 51, 331h.  NCCH2CO2Et (115 ml.), 115 g. Et 2-methylcyclohexanone-
     2-carboxylate, 30 ml. AcOH, and 12 g. AcONH4 in 250 ml. C6H6 was refluxed
     with continuous removal of H2O; an addnl. 48 g. AcONH4 was added in 12 g.
     lots as the reaction slowed.  After 30 hrs. refluxing, the mixture on
     cooling deposited 15 g. 2-methyl-2-carboxycyclohexylidene-1-cyanoacetic
     acid imide, m. 230-1° (EtOH), λ 220 mμ (log ε
     4.026) (alc.); after removal of this byproduct, the main product was
     worked up by distillation to give 107 g. Et
2-methyl-2-carbethoxycyclohexylidene-
```

1-cyanoacetate (I), b1 165-8°, n25D 1.4762; acid (HCl hydrolysis of I), m. 169-70°, also obtainable by the alkali hydrolysis of the above imide. To 5.75 g. Na in 200 ml. absolute EtOH at 0-5° 70 g. I was introduced dropwise, after 1 hr. 48 g. BrCH2CO2Et added followed by refluxing 16 hrs.; working up yielded 77 g. di-Et α-cyano-α-(2-methyl-2-carbethoxy-6-cyclohexenyl)succinate (II), b1 195-200°, n25D 1.4780. II (58 g.) refluxed 36 hrs. with 650 ml. concentrated HCl, most of the HCl distilled, and the product worked up with Et2O and crystallized from Et2O and petr. ether (40-60°) gave 8 g. mixture of acids, m. 130-45°; crystallization from 25 ml. AcOEt, 200 ml. Et2O, and 50 ml. petr. ether gave 3.2 g. 2-methyl-2-carboxycyclohex-6-enylsuccinic acid lactone (III), m. 184-5° (Et2O-petr. ether); working up the mother liquors gave 6.8 g. 2-methyl-2-carboxycyclohex-6-enylsuccinic acid (IV), m. 152-3° (ether-petr. ether). When the time of hydrolysis was increased to 55 hrs., 4.6 g. 2-methyl-1-cyclohexenylsuccinic acid lactone (V), m. 200° (Et2O-petr. ether) (Me ester, b0.8 140-5°), along with a gummy acid mixture was obtained. The crude acid mixture was esterified with MeOH and H2SO4 50 hrs., and the Et2OC6H6 extract separated into neutral and acid parts with 5% aqueous NaOH. Distillation of the neutral part gave 29.5 g. Me ester (VI) of IV, b0.8 155-60°, n26D 1.4819, and the alkaline portion was worked up to yield 1.8 g. Me ester of III, b0.5 160-9°. IV (1 g.) and 20 ml. concentrated HCl was refluxed 20 hrs. to give 0.1 g. III; when heated for a much longer time only 13 mg. V could be isolated. When 10.3 g. VI in 40 ml. C6H6 was cyclized with MeONa (from 1.57 g. Na, 2.8 ml. MeOH, and 30 ml. C6H6) at reflux temperature 4-5 hrs. under N, 5.3 g. di-Me Δ3a,4-7a-methylhydrindanone-2,3-dicarboxylate (VII), b1.5 165-8°, n25D 1.4935, λ 220 mμ (alc.) (log ε 3.81), was obtained; with Na dust alone the yield was only 2.8 g. VII (20.5 g.) was refluxed 32 hrs. with 100 ml. concentrated HCl and worked up with Et2O to give 0.28 g. neutral ketone (VIII) and 10.2 g. Δ3a,4-3-carboxy-7a-methylhydrindanone (IX), m. 160° (Et2O-petr. ether) (semicarbazone, m. 258°); Me ester, b1.5 120-5° [semicarbazone, m. 220° (dilute MeOH)]. III (1.15 g.) in 5 ml. MeOH was refluxed with 0.23 g. Na in 5 ml. MeOH 2 hrs., cooled, treated with 5 ml. MeI, and refluxed 6 hrs. to give 0.83 g. VI. VI (8 g.) in AcOH was hydrogenated over prereduced PtO2 to give 7.8 g. dihydro derivative (X), b1 155-7°, n33D 1.4715. X (7.8 g.) on cyclization with MeONa in C6H6 gave 4 g. cis-dimethyl-7a-methylhydrindanone-2,3-dicarboxylate (XI), b0.5 135-40°. Hydrogenation of IX in AcOH over prereduced PtO2 yielded cis-7a-methylhydrindanone-3-carboxylic acid (XII), m. 155-6°; Me ester, b0.9 120° (semicarbazone, m. 192-3°). Acid hydrolysis of XI gave XII which (1.38 g.) on oxidation with HNO3 gave cis-2-methylcyclohexane-1,2-dicarboxylic acid, m. 160°. Hydrogenation of VIII gave cis-7a-methylhydrindanone (XIII), isolated as the semicarbazone, m. 223° (dilute MeOH). IX (0.8 g.) was decarboxylated in 5 ml. quinoline at 250-70° in the presence of Cu and the resulting product hydrogenated over 10% Pd-C to give XIII. Condensation of 11.2 g. 2-methylcyclohexanone with di-Me succinate in the presence of tert-BuOK gave 15.8 g. β-carbomethoxy-β-(o-methylcyclohexenyl)propionic acid, b0.5 145-50°; Me ester, b4 125-7°; dihydro di-Me ester (XIV), b4 125-6°. Saponification of XIV with 10% MeOH-NaOH yielded α-(2-methylcyclohexyl)succinic acid (XV), m. 155°. V (0.424 g.) in 14 ml. MeOH was refluxed with MeONa 2 hrs., cooled, and refluxed 6 hrs. after the addition of 2 ml. MeI to give 0.45 g. HO ester (XVI), b0.2-0.3 110-12°. Dehydration of XVI with KHSO4 at 180° under N gave the unsatd. diester, b0.2 90-100°; dihydro derivative (XVII), b0.4 110-15°. Acid hydrolysis of XVII gave XV. Condensation of 19.4 g. Et (2-methylcyclohexylidene)cyanoacetate with 17 g. BrCH2CO2Et, gave 17.6 g. di-Et α-cyano-α-(2-methylcyclohexenyl)succinate (XVIII), b1 168-75°, n25D 1.4740. XVIII (6.8 g.) was heated with 125 ml. concentrated HCl 16 hrs. to give 2.1 g. γ-(2-methylcyclohexyl)-β-

carboxyspirobutyrolactone (XIX), m. 107° (Et2O-petr. ether). XIX (2.55 g.) on decarboxylation at 240-50° in the presence of powdered glass gave 1.6 g. γ-(2-methylcyclohexyl)spirobutyrolactone, b4 130-5°.

```
=> save temp all indansrch/l
'INDANSRCH/L' IN USE
A single name cannot be used for two saved items at the same time.
Enter "Y" if you wish to replace the current saved name with a new
definition.  Enter "N" if the current saved definition must be
preserved.  You may then reenter the SAVE command with a different
saved name.  Enter "DISPLAY SAVED" at an arrow prompt (=>) to see a
list of your currently defined saved names.
REPLACE OLD DEFINITION? Y/(N):y
L# LIST L1-L16 HAS BEEN SAVED AS 'INDANSRCH/L'

=> logoff hold
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                    17.27     215.77

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)          SINCE FILE      TOTAL
                                                       ENTRY    SESSION
CA SUBSCRIBER PRICE                                    -1.46      -2.19

 SESSION WILL BE HELD FOR 60 MINUTES
STN INTERNATIONAL SESSION SUSPENDED AT 13:46:18 ON 21 SEP 2005

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 NEWS  1          Web Page URLs for STN Seminar Schedule - N. America
 NEWS  2          "Ask CAS" for self-help around the clock
 NEWS  3  JUL 20  Powerful new interactive analysis and visualization software,
                  STN AnaVist, now available
 NEWS  4  AUG 11  Derwent World Patents Index(R) web-based training during
                  August
 NEWS  5  AUG 11  STN AnaVist workshops to be held in North America
 NEWS  6  AUG 30  CA/CAplus -Increased access to 19th century research documents
 NEWS  7  AUG 30  CASREACT - Enhanced with displayable reaction conditions
 NEWS  8  SEP 09  ACD predicted properties enhanced in REGISTRY/ZREGISTRY

 NEWS EXPRESS  JUNE 13 CURRENT WINDOWS VERSION IS V8.0, CURRENT
               MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),
               AND CURRENT DISCOVER FILE IS DATED 13 JUNE 2005

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* * * * * * * * * * * * * * * STN Columbus * * * * * * * * * * * * * * * *

FILE 'HOME' ENTERED AT 05:32:13 ON 22 SEP 2005

=> file regh
'REGH' IS NOT A VALID FILE NAME
SESSION CONTINUES IN FILE 'HOME'
Enter "HELP FILE NAMES" at an arrow prompt (=>) for a list of files that are available. If you have requested multiple files, you can specify a corrected file name or you can enter "IGNORE" to continue accessing the remaining file names entered.

=> file reg

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.42	0.42

FILE 'REGISTRY' ENTERED AT 05:33:03 ON 22 SEP 2005
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Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 21 SEP 2005 HIGHEST RN 863636-50-4
DICTIONARY FILE UPDATES: 21 SEP 2005 HIGHEST RN 863636-50-4

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2005

Please note that search-term pricing does apply when conducting SmartSELECT searches.

```
**********************************************************************
*                                                                    *
* The CA roles and document type information have been removed from  *
* the IDE default display format and the ED field has been added,    *
* effective March 20, 2005.  A new display format, IDERL, is now     *
* available and contains the CA role and document type information.  *
*                                                                    *
**********************************************************************
```

Structure search iteration limits have been increased. See HELP SLIMITS for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:
http://www.cas.org/ONLINE/DBSS/registryss.html

```
=> e 1H-Indene-1,3-dicarboxylic acid, 2,3-dihydro-, cis-/cn
E1            1     1H-INDENE-1,3-DICARBOXYLIC ACID, 1-BUTYL-, DIBUTYL ESTER/CN
E2            1     1H-INDENE-1,3-DICARBOXYLIC ACID, 2,3-DIHYDRO-/CN
E3            1 --> 1H-INDENE-1,3-DICARBOXYLIC ACID, 2,3-DIHYDRO-, CIS-/CN
```

```
E4            1      1H-INDENE-1,3-DICARBOXYLIC ACID, 2,3-DIHYDRO-1-((METHOXYCARB
                     ONYL)AMINO)-, DIMETHYL ESTER, (1R,3R)-/CN
E5            1      1H-INDENE-1,3-DICARBOXYLIC ACID, 2,3-DIHYDRO-1-((METHOXYCARB
                     ONYL)AMINO)-, DIMETHYL ESTER, (1R,3S)-/CN
E6            1      1H-INDENE-1,3-DICARBOXYLIC ACID, 2-PHENYL-/CN
E7            1      1H-INDENE-1,3-DICARBOXYLIC ACID, 2-PHENYL-, DIMETHYL ESTER/C
                     N
E8            1      1H-INDENE-1,3-DICARBOXYLIC ACID, 2-PHENYL-, POLYMER WITH 1,1
                     '-OXYBIS(4-ISOCYANATOBENZENE)/CN
E9            1      1H-INDENE-1,3-DICARBOXYLIC ACID, 2-PHENYL-, POLYMER WITH 1,4
                     -BENZENEDICARBOXYLIC ACID AND 1,1'-OXYBIS(4-ISOCYANATOBENZEN
                     E)/CN
E10           1      1H-INDENE-1,3-DICARBOXYLIC ACID, 4,5,6,7-TETRAFLUORO-2,3-DIH
                     YDRO-/CN
E11           1      1H-INDENE-1,3-DICARBOXYLIC ACID, 4-(ACETYLOXY)OCTAHYDRO-3A-M
                     ETHYL-6-(1-METHYLETHYL)-7-OXO-/CN
E12           1      1H-INDENE-1,3-DICARBOXYLIC ACID, 5-FORMYL-, DIETHYL ESTER/CN

=> e3
L1            1 "1H-INDENE-1,3-DICARBOXYLIC ACID, 2,3-DIHYDRO-, CIS-"/CN

=> d l1

L1   ANSWER 1 OF 1  REGISTRY  COPYRIGHT 2005 ACS on STN
RN   69718-74-7  REGISTRY
ED   Entered STN:  16 Nov 1984
CN   1H-Indene-1,3-dicarboxylic acid, 2,3-dihydro-, cis- (9CI)  (CA
     INDEX NAME)
OTHER NAMES:
CN   cis-1,3-Indandicarboxylic acid
FS   STEREOSEARCH
MF   C11 H10 O4
LC   STN Files:   BEILSTEIN*, CA, CAPLUS, TOXCENTER
         (*File contains numerically searchable property data)

Relative stereochemistry.
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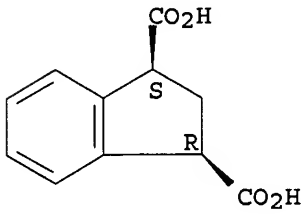


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**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**

              1 REFERENCES IN FILE CA (1907 TO DATE)
              1 REFERENCES IN FILE CAPLUS (1907 TO DATE)


=> filke caplus
             0 FILKE
             0 CAPLUS
L2           0 FILKE CAPLUS
                 (FILKE(W)CAPLUS)

=> file caplus
COST IN U.S. DOLLARS                          SINCE FILE      TOTAL
                                                 ENTRY     SESSION
FULL ESTIMATED COST                              16.50       16.92
```

FILE 'CAPLUS' ENTERED AT 05:34:13 ON 22 SEP 2005
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FILE COVERS 1907 - 22 Sep 2005 VOL 143 ISS 13
FILE LAST UPDATED: 21 Sep 2005 (20050921/ED)

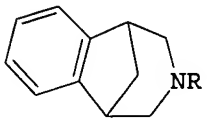
New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> l1
L3 1 L1

=> d l3 ti fbib abs

L3 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2005 ACS on STN
TI Synthesis and pharmacological activity of 2,3,4,5-tetrahydro-1,5-methano-1H-3-benzazepines
AN 1979:432639 CAPLUS
DN 91:32639
TI Synthesis and pharmacological activity of 2,3,4,5-tetrahydro-1,5-methano-1H-3-benzazepines
AU Mazzocchi, Paul H.; Stahly, Barbara C.
CS Dep. Chem., Univ. Maryland, College Park, MD, USA
SO Journal of Medicinal Chemistry (1979), 22(4), 455-7
CODEN: JMCMAR; ISSN: 0022-2623
DT Journal
LA English
OS CASREACT 91:32639
GI



I

AB The title compds. I (R = H, alkyl, allyl, etc.) were prepared from 2,3-dioxobenzonorbornene. 3-Allyl-2,3,4,5-tetrahydro-1,5-methano-1H-3-benzazepine oxalate (1:1) showed a slight antinociceptive activity in the mouse hot-plate assay and little antagonistic activity in the tail-flick assay. None of other I showed significant analgesic activity and all except 2,3,4,5-tetrahydro-3-(2-phenylethyl)-1,5-methano-1H-3-benzazepine oxalate (1:1) were toxic. Structure-activity relations are discussed.

=> logoff hold
COST IN U.S. DOLLARS SINCE FILE ENTRY TOTAL SESSION

FULL ESTIMATED COST	4.45	21.37

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-0.73	-0.73

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